

SEQUENCE LISTING

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<120> GSK3 POLYPEPTIDES

<130> 59516-162/PP-15876.002/200130.524

<140> US10/211,412
<141> 2002-07-31<150> US09/916,109
<151> 2001-07-25

<160> 11

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 420
<212> PRT
<213> Homo sapiens

<400> 1
Met Ser Gly Arg Pro Arg Thr Thr Ser Phe Ala Glu Ser Cys Lys Pro
1 5 10 15
Val Gln Gln Pro Ser Ala Phe Gly Ser Met Lys Val Ser Arg Asp Lys
20 25 30
Asp Gly Ser Lys Val Thr Thr Val Val Ala Thr Pro Gly Gln Gly Pro
35 40 45
Asp Arg Pro Gln Glu Val Ser Tyr Thr Asp Thr Lys Val Ile Gly Asn
50 55 60
Gly Ser Phe Gly Val Val Tyr Gln Ala Lys Leu Cys Asp Ser Gly Glu
65 70 75 80
Leu Val Ala Ile Lys Lys Val Leu Gln Asp Lys Arg Phe Lys Asn Arg
85 90 95
Glu Leu Gln Ile Met Arg Lys Leu Asp His Cys Asn Ile Val Arg Leu
100 105 110
Arg Tyr Phe Phe Tyr Ser Ser Gly Glu Lys Lys Asp Glu Val Tyr Leu
115 120 125
Asn Leu Val Leu Asp Tyr Val Pro Glu Thr Val Tyr Arg Val Ala Arg
130 135 140
His Tyr Ser Arg Ala Lys Gln Thr Leu Pro Val Ile Tyr Val Lys Leu
145 150 155 160
Tyr Met Tyr Gln Leu Phe Arg Ser Leu Ala Tyr Ile His Ser Phe Gly
165 170 175
Ile Cys His Arg Asp Ile Lys Pro Gln Asn Leu Leu Asp Pro Asp

180	185	190
Thr Ala Val Leu Lys Leu Cys Asp Phe Gly Ser Ala Lys Gln Leu Val		
195	200	205
Arg Gly Glu Pro Asn Val Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala		
210	215	220
Pro Glu Leu Ile Phe Gly Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val		
225	230	235
Trp Ser Ala Gly Cys Val Leu Ala Glu Leu Leu Leu Gly Gln Pro Ile		
245	250	255
Phe Pro Gly Asp Ser Gly Val Asp Gln Leu Val Glu Ile Ile Lys Val		
260	265	270
Leu Gly Thr Pro Thr Arg Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr		
275	280	285
Thr Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp Thr Lys Val		
290	295	300
Phe Arg Pro Arg Thr Pro Pro Glu Ala Ile Ala Leu Cys Ser Arg Leu		
305	310	315
Leu Glu Tyr Thr Pro Thr Ala Arg Leu Thr Pro Leu Glu Ala Cys Ala		
325	330	335
His Ser Phe Phe Asp Glu Leu Arg Asp Pro Asn Val Lys His Pro Asn		
340	345	350
Gly Arg Asp Thr Pro Ala Leu Phe Asn Phe Thr Thr Gln Glu Leu Ser		
355	360	365
Ser Asn Pro Pro Leu Ala Thr Ile Leu Ile Pro Pro His Ala Arg Ile		
370	375	380
Gln Ala Ala Ala Ser Thr Pro Thr Asn Ala Thr Ala Ala Ser Asp Ala		
385	390	395
Asn Thr Gly Asp Arg Gly Gln Thr Asn Asn Ala Ala Ser Ala Ser Ala		
405	410	415
Ser Asn Ser Thr		
420		

<210> 2
<211> 394
<212> PRT
<213> Homo sapiens

<400> 2		
Met Glu Tyr Met Pro Met Glu Gly Gly Met Ser Gly Arg Pro Arg		
1	5	10
15		
Thr Thr Ser Phe Ala Glu Ser Cys Lys Pro Val Gln Gln Pro Ser Ala		
20	25	30
25		
Phe Gly Ser Met Lys Val Ser Arg Asp Lys Asp Gly Ser Lys Val Thr		
35	40	45
45		
Thr Val Val Ala Thr Pro Gly Gln Gly Pro Asp Arg Pro Gln Glu Val		
50	55	60
60		
Ser Tyr Thr Asp Thr Lys Val Ile Gly Asn Gly Ser Phe Gly Val Val		
65	70	75
75		80
Tyr Gln Ala Lys Leu Cys Asp Ser Gly Glu Leu Val Ala Ile Lys Lys		
85	90	95
95		
Val Leu Gln Asp Lys Arg Phe Lys Asn Arg Glu Leu Gln Ile Met Arg		
100	105	110
110		
Lys Leu Asp His Cys Asn Ile Val Arg Leu Arg Tyr Phe Phe Tyr Ser		
115	120	125
125		
Ser Gly Glu Lys Lys Asp Glu Val Tyr Leu Asn Leu Val Leu Asp Tyr		
130	135	140

Val Pro Glu Thr Val Tyr Arg Val Ala Arg His Tyr Ser Arg Ala Lys
 145 150 155 160
 Gln Thr Leu Pro Val Ile Tyr Val Lys Leu Tyr Met Tyr Gln Leu Phe
 165 170 175
 Arg Ser Leu Ala Tyr Ile His Ser Phe Gly Ile Cys His Arg Asp Ile
 180 185 190
 Lys Pro Gln Asn Leu Leu Leu Asp Pro Asp Thr Ala Val Leu Lys Leu
 195 200 205
 Cys Asp Phe Gly Ser Ala Lys Gln Leu Val Arg Gly Glu Pro Asn Val
 210 215 220
 Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala Pro Glu Leu Ile Phe Gly
 225 230 235 240
 Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val Trp Ser Ala Gly Cys Val
 245 250 255
 Leu Ala Glu Leu Leu Leu Gly Gln Pro Ile Phe Pro Gly Asp Ser Gly
 260 265 270
 Val Asp Gln Leu Val Glu Ile Ile Lys Val Leu Gly Thr Pro Thr Arg
 275 280 285
 Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr Thr Glu Phe Lys Phe Pro
 290 295 300
 Gln Ile Lys Ala His Pro Trp Thr Lys Val Phe Arg Pro Arg Thr Pro
 305 310 315 320
 Pro Glu Ala Ile Ala Leu Cys Ser Arg Leu Leu Glu Tyr Thr Pro Thr
 325 330 335
 Ala Arg Leu Thr Pro Leu Glu Ala Cys Ala His Ser Phe Phe Asp Glu
 340 345 350
 Leu Arg Asp Pro Asn Val Lys His Pro Asn Gly Arg Asp Thr Pro Ala
 355 360 365
 Leu Phe Asn Phe Thr Thr Gln Glu Leu Ser Ser Asn Pro Pro Leu Ala
 370 375 380
 Thr Ile Leu Ile Pro Pro His Ala Arg Ile
 385 390

<210> 3
 <211> 361
 <212> PRT
 <213> Homo sapiens

<400> 3
 Met Glu Tyr Met Pro Met Glu Gly Gly Gly Ser Lys Val Thr Thr
 1 5 10 15
 Val Val Ala Thr Pro Gly Gln Gly Pro Asp Arg Pro Gln Glu Val Ser
 20 25 30
 Tyr Thr Asp Thr Lys Val Ile Gly Asn Gly Ser Phe Gly Val Val Tyr
 35 40 45
 Gln Ala Lys Leu Cys Asp Ser Gly Glu Leu Val Ala Ile Lys Lys Val
 50 55 60
 Leu Gln Asp Lys Arg Phe Lys Asn Arg Glu Leu Gln Ile Met Arg Lys
 65 70 75 80
 Leu Asp His Cys Asn Ile Val Arg Leu Arg Tyr Phe Phe Tyr Ser Ser
 85 90 95
 Gly Glu Lys Lys Asp Glu Val Tyr Leu Asn Leu Val Leu Asp Tyr Val
 100 105 110
 Pro Glu Thr Val Tyr Arg Val Ala Arg His Tyr Ser Arg Ala Lys Gln
 115 120 125
 Thr Leu Pro Val Ile Tyr Val Lys Leu Tyr Met Tyr Gln Leu Phe Arg

130	135	140
Ser Leu Ala Tyr Ile His	Ser Phe Gly Ile Cys	His Arg Asp Ile Lys
145	150	155
Pro Gln Asn Leu Leu	Leu Asp Pro Asp	Thr Ala Val Leu Lys Leu Cys
	165	170
Asp Phe Gly Ser Ala Lys	Gln Leu Val Arg Gly Glu	Pro Asn Val Ser
	180	185
Tyr Ile Cys Ser Arg Tyr	Tyr Arg Ala Pro Glu Leu	Ile Phe Gly Ala
	195	200
Thr Asp Tyr Thr Ser Ser	Ile Asp Val Trp Ser Ala	Gly Cys Val Leu
	210	215
Ala Glu Leu Leu Leu	Gly Gln Pro Ile Phe	Pro Gly Asp Ser Gly Val
	225	230
Asp Gln Leu Val Glu	Ile Ile Lys Val	Leu Gly Thr Pro Thr Arg Glu
	245	250
Gln Ile Arg Glu Met Asn	Pro Asn Tyr Thr Glu Phe Lys	Phe Pro Gln
	260	265
Ile Lys Ala His Pro Trp	Thr Lys Val Phe Arg Pro	Arg Thr Pro Pro
	275	280
Glu Ala Ile Ala Leu Cys	Ser Arg Leu Leu Glu	Tyr Thr Pro Thr Ala
	290	295
Arg Leu Thr Pro Leu	Glu Ala Cys Ala His	Ser Phe Phe Asp Glu Leu
	305	310
Arg Asp Pro Asn Val Lys	His Pro Asn Gly Arg Asp	Thr Pro Ala Leu
	325	330
Phe Asn Phe Thr Thr Gln	Glu Leu Ser Ser Asn Pro	Pro Leu Ala Thr
	340	345
Ile Leu Ile Pro Pro His	Ala Arg Ile	
	355	360

<210> 4
 <211> 483
 <212> PRT
 <213> Homo sapiens

<400> 4
Met Ser Gly Gly Gly Pro Ser Gly Gly Pro Gly Gly Ser Gly Arg
1 5 10 15
Ala Arg Thr Ser Ser Phe Ala Glu Pro Gly Gly Gly Gly Gly
20 25 30
Gly Gly Pro Gly Gly Ser Ala Ser Gly Pro Gly Gly Thr Gly Gly
35 40 45
Gly Lys Ala Ser Val Gly Ala Met Gly Gly Gly Val Gly Ala Ser Ser
50 55 60
Ser Gly Gly Gly Pro Gly Gly Ser Gly Gly Gly Ser Gly Gly Pro
65 70 75 80
Gly Ala Gly Thr Ser Phe Pro Pro Gly Val Lys Leu Gly Arg Asp
85 90 95
Ser Gly Lys Val Thr Thr Val Val Ala Thr Leu Gly Gln Gly Pro Glu
100 105 110
Arg Ser Gln Glu Val Ala Tyr Thr Asp Ile Lys Val Ile Gly Asn Gly
115 120 125
Ser Phe Gly Val Val Tyr Gln Ala Arg Leu Ala Glu Thr Arg Glu Leu
130 135 140
Val Ala Ile Lys Lys Val Leu Gln Asp Lys Arg Phe Lys Asn Arg Glu
145 150 155 160

Leu Gln Ile Met Arg Lys Leu Asp His Cys Asn Ile Val Arg Leu Arg
 165 170 175
 Tyr Phe Phe Tyr Ser Ser Gly Glu Lys Lys Asp Glu Leu Tyr Leu Asn
 180 185 190
 Leu Val Leu Glu Tyr Val Pro Glu Thr Val Tyr Arg Val Ala Arg His
 195 200 205
 Phe Thr Lys Ala Lys Leu Thr Ile Pro Ile Leu Tyr Val Lys Val Tyr
 210 215 220
 Met Tyr Gln Leu Phe Arg Ser Leu Ala Tyr Ile His Ser Gln Gly Val
 225 230 235 240
 Cys His Arg Asp Ile Lys Pro Gln Asn Leu Leu Val Asp Pro Asp Thr
 245 250 255
 Ala Val Leu Lys Leu Cys Asp Phe Gly Ser Ala Lys Gln Leu Val Arg
 260 265 270
 Gly Glu Pro Asn Val Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala Pro
 275 280 285
 Glu Leu Ile Phe Gly Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val Trp
 290 295 300
 Ser Ala Gly Cys Val Leu Ala Glu Leu Leu Leu Gly Gln Pro Ile Phe
 305 310 315 320
 Pro Gly Asp Ser Gly Val Asp Gln Leu Val Glu Ile Ile Lys Val Leu
 325 330 335
 Gly Thr Pro Thr Arg Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr Thr
 340 345 350
 Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp Thr Lys Val Phe
 355 360 365
 Lys Ser Arg Thr Pro Pro Glu Ala Ile Ala Leu Cys Ser Ser Leu Leu
 370 375 380
 Glu Tyr Thr Pro Ser Ser Arg Leu Ser Pro Leu Glu Ala Cys Ala His
 385 390 395 400
 Ser Phe Phe Asp Glu Leu Arg Cys Leu Gly Thr Gln Leu Pro Asn Asn
 405 410 415
 Arg Pro Leu Pro Pro Leu Phe Asn Phe Ser Ala Gly Glu Leu Ser Ile
 420 425 430
 Gln Pro Ser Leu Asn Ala Ile Leu Ile Pro Pro His Leu Arg Ser Pro
 435 440 445
 Ala Gly Thr Thr Thr Leu Thr Pro Ser Ser Gln Ala Leu Thr Glu Thr
 450 455 460
 Pro Thr Ser Ser Asp Trp Gln Ser Thr Asp Ala Thr Pro Thr Leu Thr
 465 470 475 480
 Asn Ser Ser

<210> 5
 <211> 447
 <212> PRT
 <213> Homo sapiens

<400> 5
 Met Ser Gly Gly Gly Pro Ser Gly Gly Pro Gly Gly Ser Gly Arg
 1 5 10 15
 Ala Arg Thr Ser Ser Phe Ala Glu Pro Gly Gly Gly Gly Gly Gly
 20 25 30
 Gly Gly Gly Pro Gly Gly Ser Ala Ser Gly Pro Gly Gly Thr Gly Gly
 35 40 45
 Gly Lys Ala Ser Val Gly Ala Met Gly Gly Val Gly Ala Ser Ser

50	55	60													
Ser	Gly	Gly	Gly	Pro	Gly	Gly	Ser	Gly	Gly	Gly	Ser	Gly	Gly	Pro	
65					70			75						80	
Gly	Ala	Gly	Thr	Ser	Phe	Pro	Pro	Pro	Gly	Val	Lys	Leu	Gly	Arg	Asp
									85		90			95	
Ser	Gly	Lys	Val	Thr	Thr	Val	Val	Ala	Thr	Leu	Gly	Gln	Gly	Pro	Glu
								100		105			110		
Arg	Ser	Gln	Glu	Val	Ala	Tyr	Thr	Asp	Ile	Lys	Val	Ile	Gly	Asn	Gly
								115		120			125		
Ser	Phe	Gly	Val	Val	Tyr	Gln	Ala	Arg	Leu	Ala	Glu	Thr	Arg	Glu	Leu
								130		135			140		
Val	Ala	Ile	Lys	Lys	Val	Leu	Gln	Asp	Lys	Arg	Phe	Lys	Asn	Arg	Glu
145						150				155				160	
Leu	Gln	Ile	Met	Arg	Lys	Leu	Asp	His	Cys	Asn	Ile	Val	Arg	Leu	Arg
								165		170			175		
Tyr	Phe	Phe	Tyr	Ser	Ser	Gly	Glu	Lys	Lys	Asp	Glu	Leu	Tyr	Leu	Asn
						180			185				190		
Leu	Val	Leu	Glu	Tyr	Val	Pro	Glu	Thr	Val	Tyr	Arg	Val	Ala	Arg	His
						195			200			205			
Phe	Thr	Lys	Ala	Lys	Leu	Thr	Ile	Pro	Ile	Leu	Tyr	Val	Lys	Val	Tyr
						210			215			220			
Met	Tyr	Gln	Leu	Phe	Arg	Ser	Leu	Ala	Tyr	Ile	His	Ser	Gln	Gly	Val
225							230				235			240	
Cys	His	Arg	Asp	Ile	Lys	Pro	Gln	Asn	Leu	Leu	Val	Asp	Pro	Asp	Thr
							245			250			255		
Ala	Val	Leu	Lys	Leu	Cys	Asp	Phe	Gly	Ser	Ala	Lys	Gln	Leu	Val	Arg
							260			265			270		
Gly	Glu	Pro	Asn	Val	Ser	Tyr	Ile	Cys	Ser	Arg	Tyr	Tyr	Arg	Ala	Pro
							275			280			285		
Glu	Leu	Ile	Phe	Gly	Ala	Thr	Asp	Tyr	Thr	Ser	Ser	Ile	Asp	Val	Trp
							290			295			300		
Ser	Ala	Gly	Cys	Val	Leu	Ala	Glu	Leu	Leu	Leu	Gly	Gln	Pro	Ile	Phe
305								310			315			320	
Pro	Gly	Asp	Ser	Gly	Val	Asp	Gln	Leu	Val	Glu	Ile	Ile	Lys	Val	Leu
								325			330			335	
Gly	Thr	Pro	Thr	Arg	Glu	Gln	Ile	Arg	Glu	Met	Asn	Pro	Asn	Tyr	Thr
							340			345			350		
Glu	Phe	Lys	Phe	Pro	Gln	Ile	Lys	Ala	His	Pro	Trp	Thr	Lys	Val	Phe
							355			360			365		
Lys	Ser	Arg	Thr	Pro	Pro	Glu	Ala	Ile	Ala	Leu	Cys	Ser	Ser	Leu	Leu
								370			375			380	
Glu	Tyr	Thr	Pro	Ser	Ser	Arg	Leu	Ser	Pro	Leu	Glu	Ala	Cys	Ala	His
385									390			395			400
Ser	Phe	Phe	Asp	Glu	Leu	Arg	Cys	Leu	Gly	Thr	Gln	Leu	Pro	Asn	Asn
									405			410			415
Arg	Pro	Leu	Pro	Pro	Leu	Phe	Asn	Phe	Ser	Ala	Gly	Glu	Leu	Ser	Ile
								420			425			430	
Gln	Pro	Ser	Leu	Asn	Ala	Ile	Leu	Ile	Pro	Pro	His	Leu	Arg	Ser	
								435			440			445	

<210> 6

<211> 387

<212> PRT

<213> Homo sapiens

<400> 6

Ser Gly Lys Val Thr Thr Val Val Ala Thr Leu Gly Gln Gly Pro Glu
 1 5 10 15
 Arg Ser Gln Glu Val Ala Tyr Thr Asp Ile Lys Val Ile Gly Asn Gly
 20 25 30
 Ser Phe Gly Val Val Tyr Gln Ala Arg Leu Ala Glu Thr Arg Glu Leu
 35 40 45
 Val Ala Ile Lys Lys Val Leu Gln Asp Lys Arg Phe Lys Asn Arg Glu
 50 55 60
 Leu Gln Ile Met Arg Lys Leu Asp His Cys Asn Ile Val Arg Leu Arg
 65 70 75 80
 Tyr Phe Phe Tyr Ser Ser Gly Glu Lys Lys Asp Glu Leu Tyr Leu Asn
 85 90 95
 Leu Val Leu Glu Tyr Val Pro Glu Thr Val Tyr Arg Val Ala Arg His
 100 105 110
 Phe Thr Lys Ala Lys Leu Thr Ile Pro Ile Leu Tyr Val Lys Val Tyr
 115 120 125
 Met Tyr Gln Leu Phe Arg Ser Leu Ala Tyr Ile His Ser Gln Gly Val
 130 135 140
 Cys His Arg Asp Ile Lys Pro Gln Asn Leu Leu Val Asp Pro Asp Thr
 145 150 155 160
 Ala Val Leu Lys Leu Cys Asp Phe Gly Ser Ala Lys Gln Leu Val Arg
 165 170 175
 Gly Glu Pro Asn Val Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala Pro
 180 185 190
 Glu Leu Ile Phe Gly Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val Trp
 195 200 205
 Ser Ala Gly Cys Val Leu Ala Glu Leu Leu Leu Gly Gln Pro Ile Phe
 210 215 220
 Pro Gly Asp Ser Gly Val Asp Gln Leu Val Glu Ile Ile Lys Val Leu
 225 230 235 240
 Gly Thr Pro Thr Arg Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr Thr
 245 250 255
 Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp Thr Lys Val Phe
 260 265 270
 Lys Ser Arg Thr Pro Pro Glu Ala Ile Ala Leu Cys Ser Ser Leu Leu
 275 280 285
 Glu Tyr Thr Pro Ser Ser Arg Leu Ser Pro Leu Glu Ala Cys Ala His
 290 295 300
 Ser Phe Phe Asp Glu Leu Arg Cys Leu Gly Thr Gln Leu Pro Asn Asn
 305 310 315 320
 Arg Pro Leu Pro Pro Leu Phe Asn Phe Ser Ala Gly Glu Leu Ser Ile
 325 330 335
 Gln Pro Ser Leu Asn Ala Ile Leu Ile Pro Pro His Leu Arg Ser Pro
 340 345 350
 Ala Gly Thr Thr Thr Leu Thr Pro Ser Ser Gln Ala Leu Thr Glu Thr
 355 360 365
 Pro Thr Ser Ser Asp Trp Gln Ser Thr Asp Ala Thr Pro Thr Leu Thr
 370 375 380
 Asn Ser Ser
 385

<210> 7
 <211> 351
 <212> PRT
 <213> Homo sapiens

<400> 7

Ser Gly Lys Val Thr Thr Val Val Ala Thr Leu Gly Gln Gly Pro Glu
1 5 10 15
Arg Ser Gln Glu Val Ala Tyr Thr Asp Ile Lys Val Ile Gly Asn Gly
20 25 30
Ser Phe Gly Val Val Tyr Gln Ala Arg Leu Ala Glu Thr Arg Glu Leu
35 40 45
Val Ala Ile Lys Lys Val Leu Gln Asp Lys Arg Phe Lys Asn Arg Glu
50 55 60
Leu Gln Ile Met Arg Lys Leu Asp His Cys Asn Ile Val Arg Leu Arg
65 70 75 80
Tyr Phe Phe Tyr Ser Ser Gly Glu Lys Lys Asp Glu Leu Tyr Leu Asn
85 90 95
Leu Val Leu Glu Tyr Val Pro Glu Thr Val Tyr Arg Val Ala Arg His
100 105 110
Phe Thr Lys Ala Lys Leu Thr Ile Pro Ile Leu Tyr Val Lys Val Tyr
115 120 125
Met Tyr Gln Leu Phe Arg Ser Leu Ala Tyr Ile His Ser Gln Gly Val
130 135 140
Cys His Arg Asp Ile Lys Pro Gln Asn Leu Leu Val Asp Pro Asp Thr
145 150 155 160
Ala Val Leu Lys Leu Cys Asp Phe Gly Ser Ala Lys Gln Leu Val Arg
165 170 175
Gly Glu Pro Asn Val Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala Pro
180 185 190
Glu Leu Ile Phe Gly Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val Trp
195 200 205
Ser Ala Gly Cys Val Leu Ala Glu Leu Leu Gly Gln Pro Ile Phe
210 215 220
Pro Gly Asp Ser Gly Val Asp Gln Leu Val Glu Ile Ile Lys Val Leu
225 230 235 240
Gly Thr Pro Thr Arg Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr Thr
245 250 255
Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp Thr Lys Val Phe
260 265 270
Lys Ser Arg Thr Pro Pro Glu Ala Ile Ala Leu Cys Ser Ser Leu Leu
275 280 285
Glu Tyr Thr Pro Ser Ser Arg Leu Ser Pro Leu Glu Ala Cys Ala His
290 295 300
Ser Phe Phe Asp Glu Leu Arg Cys Leu Gly Thr Gln Leu Pro Asn Asn
305 310 315 320
Arg Pro Leu Pro Pro Leu Phe Asn Phe Ser Ala Gly Glu Leu Ser Ile
325 330 335
Gln Pro Ser Leu Asn Ala Ile Leu Ile Pro Pro His Leu Arg Ser
340 345 350

<210> 8

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> N-terminus addition sequence

<400> 8

Glu Phe Met Pro Thr Glu Ala Met Ala Ala Pro Lys Arg Val Ile

1

5

10

15

<210> 9
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> N-terminus addition sequence

<400> 9
Glu Tyr Met Pro Met Glu Gly Gly Gly
1 5

<210> 10
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> elution peptide

<400> 10
Glu Tyr Met Pro Thr Asp
1 5

<210> 11
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Peptide substrate phosphorylatable by GSK3

<221> VARIANT
<222> 2, 3, 4
<223> Xaa = Any Amino Acid

<400> 11
Ser Xaa Xaa Xaa Ser
1 5